

# **GET THE LEAD OUT!**

## **Target Audience:**

Adults

## **Topics:**

### Kids Stay Smart By Lowering Lead Poisoning Risk

1. Have children wash hands with soap and warm running water often and always after playing outside and before eating.
  2. Offer children foods that are good sources of calcium, like milk, calcium-fortified foods, yogurt and most any type of cheese.
  3. Offer children foods that are good sources of iron, like red meat, black-eyed peas and fortified cereals.
  4. Offer children foods that are good sources of vitamin C, like oranges, tomatoes and kiwi fruits.
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# **GET THE LEAD OUT!**

## **Lesson Creator(s):**

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## **Purpose:**

The purpose of this lesson is for participants to learn about lead poisoning: what it is, why it happens, and how to prevent it.

## **What the Nutrition Educator Needs to Know So That Participants' Questions Can Be Answered:**

It only takes 10 micrograms of lead in 2 pints of blood to cause damage. That is about a  $\frac{1}{2}$  cup of blood. That is a very, very, very small amount. One packet of Sweet-n-low or Equal has 1 million micrograms! If you take away 999,999 of those micrograms and you have 1 microgram. Try and picture in your mind that 1 microgram of sweetener mixed with  $\frac{1}{2}$  cup of tea. It's amazing how such a small amount of lead can bring harm to your child's body.

So, where can lead be found? Houses built before 1978 used lead-based paint. After time, this paint begins to chip. Children who eat these paint chips can be poisoned by the lead. Lead can also be found in the dirt or dust that children play in. Another place for lead is in lead-based pipes. Drinking and cooking water can have lead in them if coming from these pipes.

It is key to keep children "lead-free" because too much lead can change the way they grow and develop. A child who eats lead-based particles or breathes in air that contains lead dust can suffer many health problems. Problems like:

- hyperactivity
- slow or late growth
- poor coordination
- poor results in school
- short attention time
- hearing problems
- brain damage.

Lead will first go into the blood. It will then go into the kidney, liver, and maybe the bones or brain. Lead can only leave your body through urine, feces, sweat, or through breast milk. So, testing your blood level is the only way to know if your body has too much lead in it.

The most important places to test to see if there is lead is where children spend a lot of time like: the kitchen, playrooms, bedrooms, and yards. You should have someone test the amount of lead in the following areas:

- window frames and sills
- doors
- house trimming and siding
- kitchen cabinets
- painted furniture
- baseboards
- soil around your home, where children play, and where pets play or rest
- soil on unpaved pathways

Lead does not have any taste or smell. So, it is important you know if your child is around lead-based paint, pipes or dirt. When they teeth, small children like to chew on window sills. If this happens in a house older than 1978, then the child is at risk for lead poisoning. You must not peel off any loose paint. Someone who is trained in handling lead-based paint and who has the right tools should remove the paint. Until it can be properly removed, loose paint should be covered up with tape or plastic sheets. Control dust by using a damp mop or rag to clean floors, windowsills, toys and furniture.

More tips on reducing the risk of lead poisoning are:

- Have children 9 months to 6 years old tested for lead poisoning.
- Wash hands with hot, soapy water.
- Have a good diet and provide snacks between meals to children. Empty stomachs help lead get in the body.
- Avoid fatty foods, which will let children absorb lead faster.
- Foods high in calcium, iron and vitamin C help keep lead out.
- If you have lead-based pipes you need to run your water for 2-3 minutes before using it.
- Clean or remove shoes before you enter the house in case they have lead on them from the soil.

## **References:**

*Protect Your Family From Lead in Your Home.* United States Environmental Protection Agency. 2013. At:  
<http://www2.epa.gov/lead/protect-your-family-lead-your-home>

## **For Additional Reading:**

*Home Safe Lead Testing and Training.* <http://www.leadpro.com/faq.html>

*Childhood Lead Poisoning Prevention Information.* Wisconsin Department of Health Services. 2015. At:  
<https://www.dhs.wisconsin.gov/lead/clppp-info.htm>

*Nutrition and Childhood Lead Poisoning.* Ohio State University Extension Fact Sheet. At: <http://www.ag.ohio-state.edu/~ohioline/hyg-fact/5000/5536.html>

# GET THE LEAD OUT!

## Main Themes:

Nutrition & Diet

Cooking & Food Storage

Shopping

Budgeting

Safety & Sanitation

## Materials Needed:

### To prepare before class:

Test tube

1 package of Sweet-n-Low or Equal

Prepare test tube – take a package of Sweet-n-Low or Equal and pour it into an empty test tube. The amount shown in the test tube shows how much lead it takes to cause harm to almost 9,000 1-3 year olds or almost 6,000 4-6 year olds! Use this as a visual demonstration in class.

### Need for class:

Prepared test tube

Empty test tube

Handout: “Fighting Against Lead” (enough for each participant in the class)

Handout: “Lead Detective 1” “Lead Detective 2” (enough for each group in the class – 3 to 4 people per group)

Handout: “Lead Fighting Foods” (enough for each participant in the class)

Poster Boards

Markers

Pens/Pencils

## Time the Activity is Expected to Take:

Class Recap: 5 minutes

Activity 1: 10 minutes

Activity 2: 20 minutes

Activity 3: 20 minutes

Next Week’s Goals: 5 minutes

# GET THE LEAD OUT!

## Lesson Plan:

### Class Recap: (5 minutes)

1. Begin the class by asking participants to share their experiences related to their goals that they set the previous lesson. Keep this part of the class to about 5 minutes.

### Activity 1: “What is Lead Poisoning?” (10 minutes)

The purpose of this activity is to introduce the topic of today’s lesson.

1. Welcome the group. Ask them if they know what lead poisoning is and what it can do to the body. After the test tube example below, be sure the questions in steps 3-5 are asked and answered.
2. Test tube example – show the class an empty test tube. Ask them how full they think the test tube should be to have enough lead cause harm to just one child. Mark the amount on the empty test tube with a marker. Then show the class the test tube that you prepared before class. Tell them this test tube shows how much lead it takes to cause harm to almost 9,000 1-3 year olds or almost 6,000 4-6 year olds! Compare the correct answer to the test tube that the class marked to harm just one child.

Note to educator: If the class has difficulty answering any of these questions use the information given above to help them answer the questions.

3. Lead has no taste or smell. So, what can you do to keep your child from having the harmful effects of lead poisoning?
4. Where can you find lead? If the participants are having a hard time with the question, use information given in the section “What the Nutrition Educator Needs to Know So That Participants’ Questions Can Be Answered.”
5. What health problems can a child have from lead poisoning?
6. At the end of this activity, give each participant the “Fighting Against Lead” handout for them to take home.

## **Activity 2: “Keeping Your Home Lead Free” (20 Minutes)**

The purpose of this activity is to have the class think of places where lead can hide inside and outside of their home. This activity also allows them to make plans for how to reduce the risk of lead poisoning in their home.

1. Divide the class into groups of 3-4 people. Give each group the “Lead Detective” handout. Then, tell them they need to pretend that they are at their home.
2. Have each group discuss the places where they might find lead in their home. They should think about their home, room by room. Tell them to start with the kitchen and then go to the next room in the home until they have gone through the entire home.
3. Write down on the “Lead Detective Part 1” handout all the places where lead might be hiding.
4. Now tell each group to think about the area outside of their home. Write down where lead might be hiding.
5. After writing down all the places where lead may be hiding, tell the groups to list ways on the “Lead Detective Part 2” handout how they can lower the risk of lead poisoning inside and outside of their home.
6. After each group is finished, have a person from each group tell the places in their home where lead can be found. Then have another person from the group discuss what they are going to do to reduce the risk of lead poisoning.

## **Activity 3: “Lead Fighting Foods” (20 minutes)**

The purpose of this activity is to have the class plan 3 meals and a snack with foods that can help keep lead out of the body. When they do this activity, participants can learn that by eating the right foods, they can help prevent lead poisoning.

1. Keep the same groups from Activity 2. Give each participant a copy of the handout “Lead Fighting Foods.” Also, give each group a piece of poster board and several markers.

2. Tell them that they need to make a menu for a day. They should have 3 meals and a snack. When they write menus they should remember to use foods that are good sources of calcium, iron and vitamin C. These foods help reduce the amount of lead that the body can absorb. Use the “Lead Fighting Foods” handout to help with the meal planning.

### **Next Week's Goals: (5 minutes)**

1. Ask the participants to name one thing that they learned in today’s class. Make sure that each learning objective is mentioned, and if not, be sure to re-state that objective. Ask them to choose a related goal to work on during the week. Let them know that they will be sharing their personal experiences during the next class.
2. Invite comments, suggestions, or questions.
3. Thank the participants for coming and tell them what the class will be about in the next lesson.

### **For the Teacher: “What makes this lesson behaviorally focused?”**

- Class Recap discusses the behaviors they have used from the previous lesson.
- Activity 1 shows a good visual demonstrating that it only takes a small amount of lead to harm someone (especially a child). Participants answer questions and discuss practices they can use to prevent the harmful effects of lead.
- Activity 2 participants discuss in their group all the places that lead can be hiding inside and outside of their home. The participants also share their ideas on what they can do in and out of their home to reduce the risk of lead poisoning.
- Activity 3 participants develop a menu with foods that can help keep lead out of their child’s body. Participants will learn what foods can be eaten to help fight against lead poisoning.
- In Next Week's Goals, the participants are invited to name one thing that they learned during the class that they will use. Through this activity and by reviewing the objectives again, the participants are reminded of the many

topics discussed during the lesson. They will choose the behaviors that they will want to work on during the coming week.



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# Fighting Against Lead

Follow the tips below to lower the risk of lead poisoning for your child.

- Have children between the ages of 9 months and 6 years tested for lead poisoning.
- Control dust by using a damp mop or rag to clean floors and windowsills.
- Make sure your children wash their hands with hot, soapy water before eating and any time they are near soil, paint or anything else that may have lead in it.
- If your home is older than 1978, do not remove paint chips. Cover them up with tape or plastic sheets until you can get them removed by a professional.
- Make sure children do not chew on painted furniture or windowsills.
- Feed your child a good diet. Provide snacks between meals. Empty stomachs help lead get into the body.
- Feed your child foods that have calcium, iron and vitamin C. These types of foods help keep the lead out.
- If you think you may have lead pipes, run your water for 2-3 minutes before using it.
- For children over age 2, prepare diets low in fat. Diets low in fat help keep the lead out of the body.

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# Lead Detective

## Part 1

Where is the lead hiding? Think about your home. Go room to room starting with your kitchen and write down all the places where lead can hide. Do not forget about the bathroom, laundry room or pantry. Then think about the area outside of your home. Write down where lead might be hiding. Think about the questions below when you think about the inside and outside of your home.

1. Have you checked inside the cabinets and closets?
2. Are your rooms covered in old paint?
3. Is there a lot of dust?
4. Do your children play in the room?
5. Do your children put things in their mouth? What do they put into their mouth?

Kitchen:

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Room #1:

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Room #2:

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Room #3:

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Room #4:

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Room #5:

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Room #6:

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Outside your home:

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# Lead Detective

## Part 2

After you write down all the places where lead can hide, list ways that you can lower the risk of lead poisoning inside and outside of your home. Think about each room in your home and the outside.

What can I do inside and outside of my home to protect from lead:



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What can my children eat to protect their bodies from lead:

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# Lead Fighting Foods

A healthy diet filled with foods that have calcium, iron and vitamin C has been shown to help keep lead out of the body. Look at the list below to find out what foods have these nutrients.

## Food Sources of Calcium

Milk\*



Cheese\*

Yogurt\*

Ice Cream

Pudding made with Milk

Collard Greens

Turnip Greens

Broccoli



Tofu

Soup made with milk



Orange juice with calcium\*

Canned sardines with soft bones\*

Cereals and crackers with added Calcium

Kale

\*high sources of calcium

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## Food Sources of Iron

Red Meat

Black eyed peas

Dark Turkey Meat

Spinach

Shellfish, like shrimp or clams

Dried Fruits, like raisins or prunes

Liver

Enriched whole grain breads



Kidney beans

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## Food Sources of Vitamin C

Oranges



Kale

Grapefruit

Strawberries

Papayas

Sweet Potatoes

Kiwi



Cabbage

Tangerines



Red and Green Peppers

Leafy Greens

Brussel Sprouts



Tomatoes

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